

estimation function.²¹⁷ Following our own assessment of the regression analysis and the proposed cost-estimation function, we conclude that the proposed function will serve our purpose well to estimate costs on an interim basis in wire centers now served by rural price cap carriers, and we adopt it. That cost-estimation function is defined as:

$$\begin{aligned} \ln(\text{Total cost}) &= 7.08 + 0.02 * \ln(\text{distance to nearest central office in feet} + 1) \\ &\quad - 0.15 * \ln(\text{number of households} + \text{businesses in the wire center} + 1) \\ &\quad + 0.22 * \ln(\text{total road feed in wire center} + 1) \\ &\quad + 0.06 * (\ln(\text{number of households} + \text{businesses in wire center} + 1))^2 \\ &\quad - 0.01 * (\ln(\text{number of businesses in wire center} + 1))^2 \\ &\quad - 0.07 * \ln((\text{number of households} + \text{businesses})/\text{square miles} + 1) \end{aligned}$$

135. The output of the cost-estimation function will be converted into dollars and then further converted into a per-location cost in the wire center. The resulting per-location cost for each wire center will be compared to a funding threshold, which, as explained below, will be determined by our budget constraint. Support will be calculated based on the wire centers where the cost for the wire center exceeds the funding threshold. Specifically, the amount by which the per-location cost exceeds the funding threshold will be multiplied by the total number of household and business locations in the wire center.

136. The funding threshold will be set so that, using the distribution process described above, all \$300 million of incremental support potentially available under the mechanism would be allocated. We delegate to the Wireline Competition Bureau the task of performing the calculations necessary to

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Secretary, FCC, CC Docket No. 96-45 (filed July 20, 2011) (providing data necessary to evaluate the regression analysis). The r^2 value for the regression was 0.91. *See* Letter from Jennie B. Chandra, Windstream Communications, Inc., to Marlene H. Dortch, Secretary, FCC, WC Docket No. 10-90, et al., Attach. at 8 (filed June 30, 2011).

²¹⁷ One commenter expressed some general concerns with the regression equation, but did not argue that using it would be inappropriate. *See* Letter from Peter Bluhm to Marlene H. Dortch, Secretary, FCC, WC Docket No. 10-90, et al. (filed Oct. 18, 2011). In particular, the commenter noted that two variables in the regression equation, total locations (business locations plus households) and the separate business locations variable, operate in ways that seem unintuitive, because as locations increase, predicted costs decrease. While we acknowledge this concern, we note that this is not a model that attempts to predict costs by focusing on variables that cause those costs; instead the model seeks only to predict costs. Variables capturing locations explicitly might also capture density implicitly; to the extent they do, as locations increase costs would tend to decrease. While cost equations could be created that separated these effects, the goal of the cost prediction equation is to predict the output of the current cost model with as simple a model as possible.

We find that the relevant question for our purposes is whether the equation reliably produces accurate results, which, as discussed above, it does. In the absence of criticism of its results, or a proposal for an equation that is superior (e.g., one that produces more accurate results without unduly increasing complexity), we see no reason to fault it on this basis. This commenter also expressed concern that a log-linear equation regression creates a risk of inaccuracy for very low values and from synergistic interactions among terms. Such risks, however, appear to be more theoretical than actual in this case. That is, the commenter does not argue that using a log-linear equation has actually caused these effects, and we have not seen evidence to suggest that any such effects have rendered the regression unreliable as a general matter. Finally, this commenter argues that the Commission should give the public access to the underlying data for it to evaluate the regression to see if it can be improved. As noted above, *see supra* note 216, carriers submitted the necessary data under protective order, and the data were made available for review in accordance with the terms of that order.

determine the support amounts and selecting any necessary data sources for that task.²¹⁸ The Bureau will announce incremental support amounts via Public Notice; we anticipate the Bureau will complete its work and announce such support amounts on or before March 31, 2012. USAC will disburse CAF Phase I funds on its customary schedule.²¹⁹

137. CAF Phase I incremental support is designed to provide an immediate boost to broadband deployment in areas that are unserved by any broadband provider. Carriers have been steadily expanding their broadband footprints, funded through a combination of support provided under current mechanisms and other sources, and we expect such deployment will continue. We intend for CAF Phase I to enable additional deployment beyond what carriers would otherwise undertake, absent this reform. Thus, consistent with our other reforms, we will require carriers that accept incremental support under CAF Phase I to meet concrete broadband deployment obligations.²²⁰

138. Specifically, the Bureau will calculate, on a holding company basis, how much CAF Phase I incremental support price cap carriers are eligible for. Carriers may elect to receive all, none, or a portion of the incremental support for which they are eligible. A carrier accepting incremental support will be required to deploy broadband to a number of locations equal to the amount it accepts divided by \$775. For example, a carrier projected to receive \$7,750,000 will be permitted to accept up to that amount of incremental support. If it accepts the full amount, it will be required to deploy broadband to at least 10,000 unserved locations; if it accepts \$3,875,000, it will be required to deploy broadband to at least 5,000 unserved locations. To the extent incremental support is declined, it may be used in other ways to advance our broadband objectives pursuant to our statutory authority.²²¹

²¹⁸ In the event the Wireline Competition Bureau concludes that appropriate data are not readily available for these purposes for certain areas, such as some or all U.S. territories served by price cap carriers, the Bureau may exclude such areas from the analysis for this interim mechanism, which would result in the carriers in such areas continuing to receive frozen support.

²¹⁹ In 2012, USAC will disburse frozen high-cost support over the course of the entire year. Because incremental support will not be distributed until carriers accept such funding, in 2012, USAC will be required to disburse 2012 incremental support over the course of less than a full calendar year.

²²⁰ We acknowledge that our existing cost model, on which our distribution mechanism for CAF Phase I incremental funding is based, calculates the cost of providing voice service rather than broadband service, although we are requiring carriers to meet broadband deployment obligations if they accept CAF Phase I incremental funding. We find that using estimates of the cost of deploying voice service, even though we impose broadband deployment obligations, is reasonable in the context of this interim support mechanism. First, this interim mechanism is designed to identify the most expensive wire centers, and the same characteristics that make it expensive to provide voice service to a wire center (e.g., lack of density) make it expensive to provide broadband service to that wire center as well. Using a cost estimation function based on our existing model will help to identify *which* wire centers are likely to be the most expensive to provide broadband service to, even if it does not reliably identify precisely *how expensive* those wire centers will be to serve. Second, and related, our funding threshold is determined by our budget limit of \$300 million for CAF Phase I incremental support rather than by a calculation of what amount we expect a carrier to need to serve that area. That is, this interim mechanism is not designed to “fully” fund any particular wire center—it is not designed to fund the difference between (i) the deployment cost associated with the most expensive wire center in which we could reasonably expect a carrier to deploy broadband without any support at all and (ii) the actual estimated deployment cost for a wire center. Instead, the interim mechanism is designed to provide support to carriers that serve areas where we expect that providing broadband service will require universal service support.

²²¹ For instance, the funds could be held as part of accumulated reserve funds that would help minimize budget fluctuations in the event the Commission grants some petitions for waiver. Also, a number of parties have urged us to use high-cost funding to advance adoption programs. We note that the Commission has an open proceeding to reform the low income assistance programs, which specifically contemplates broadband pilots in the Lifeline and (continued...)

139. Our objective is to articulate a measurable, enforceable obligation to extend service to unserved locations during CAF Phase I. For this interim program, we are not attempting to identify the precise cost of deploying broadband to any particular location. Instead, we are trying to identify an appropriate standard to spur immediate broadband deployment to as many unserved locations as possible, given our budget constraint. In this context, we find that a one-time support payment of \$775 per unserved location for the purpose of calculating broadband deployment obligations for companies that elect to receive additional support is appropriate.

140. To develop that performance obligation, we considered broadband deployment projects undertaken by a mid-sized price cap carrier under the BIP program.²²² The average per-location cost of deployment for those projects—including both the public contribution and the company's own capital contribution—was \$557,²²³ significantly lower than the \$775 per-location amount—which does not include any company contribution—we adopt today. We note that our analysis indicated that the per-location cost for deployments funded through the BIP program varied considerably. In addition, we observe that the BIP program's requirements differ from the requirements we adopt here. Specifically, carriers could obtain BIP funding for improving service to underserved locations as well as deploying to unserved locations, while carriers can meet their CAF Phase I deployment obligations only by deploying broadband to unserved locations.²²⁴ For these reasons, while we find this average per-location cost to be relevant, we decline to set our requirement at a per-location cost of \$557.

141. In addition, we considered data from the analysis done as part of the National Broadband Plan. The cost model used in developing the National Broadband Plan estimated that the median cost of upgrading existing unserved homes is approximately \$650 to \$750, with approximately 3.5 million locations whose upgrade cost is below that figure.²²⁵

142. Commission staff also conducted an analysis using the ABC plan cost model, which

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LinkUp programs. To the extent that savings were available from CAF programs, the Commission could reallocate that funding for broadband adoption programs, consistent with our statutory authority, while still remaining within our budget target. *Cf.* Letter from Blair Levin to Marlene H. Dortch, Secretary, FCC, WC Docket No. 10-90, et al. (filed Oct. 19, 2011) (urging the Commission to focus on promoting adoption); Letter from Parul P. Desai, Consumers Union, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 10-90, et al. (filed Oct. 14, 2011) (same). Alternatively, savings could be used to reduce the contribution burden.

²²² Only one price cap carrier received BIP grant funding for last-mile broadband deployment; we considered all of that carrier's projects. Information about BIP projects is *available at* http://www.rurdev.usda.gov/supportdocuments/RBBreport_V5ForWeb.pdf.

²²³ The per-location cost for those carrier's projects ranged from a low of \$286 to a high of \$3,000. Assuming all locations in a project had a per-location cost equal to the average per-location cost in the project, the median location's cost was \$377, while the 25th percentile cost was \$286 and the 75th percentile cost was \$813.

²²⁴ We also recognize that the cost of future deployment for a carrier may be higher than the average cost of deployments that the carrier already completed because the carrier may have prioritized deployment to areas that were least costly to reach.

²²⁵ *See* OBI, Broadband Availability Gap. The OBI model estimated that the initial capex to serve all but the most expensive 250,000 homes terrestrially is \$9.2 billion (*see id.*, Exhibit 4-AP); this investment serves approximately 7 million locations, making the average cost per location approximately \$1,300. The average cost is much higher than the median cost, however, even excluding the most expensive 1 percent of locations (*see, e.g., id.*, Exhibit 1-C). According to the OBI model, the calculated median cost is roughly 60-70 percent of the average, or approximately \$650 to \$750.

calculates the cost of deploying broadband to unserved locations on a census block basis.²²⁶ Commission staff estimated that the median cost of a brownfield deployment of broadband to low-cost unserved census blocks is \$765 per location (*i.e.*, there are 1.75 million unserved, low-cost locations in areas served by price cap carriers with costs below \$765); the cost of deploying broadband to the census block at the 25th percentile of the cost distribution is approximately \$530 per location (under this analysis, there are 875,000 such locations whose cost is below \$530).²²⁷ Although, as discussed below, we do not adopt the proposed cost model to calculate support amounts for CAF Phase II,²²⁸ these estimates provide additional data points to consider.

143. In addition, we note that several carriers placed estimates of the per-location cost of extending broadband to unserved locations in their respective territories into the record.²²⁹ While several carriers claim that the cost to serve unserved locations is higher than the figure we adopt today, those estimates did not provide supporting data sufficient to fully evaluate them.

144. Taking into account all of these factors, including the cost estimates developed in the course of BIP applications as well as the flexibility we provide to carriers accepting such funding to determine where to deploy and our expectation that carriers will supplement incremental support with their own investment, we conclude that the \$775 per unserved location figure represents a reasonable

²²⁶ See Letter from Mike Lieberman, AT&T, Michael D. Saperstein, Jr., Frontier, Jeffrey S. Lanning, CenturyLink, Maggie McCreedy, Verizon, Michael T. Skrivan, Fairpoint Communications, Frank Schueneman, Windstream Communications, Inc., to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-92, et al. (filed Sept. 28, 2011).

²²⁷ Because CAF Phase I is structured to provide one-time support, rather than ongoing support, Commission staff focused on the modeled costs in the ABC plan cost model for areas where the cost to provide service is lower: areas unserved by both cable and telco broadband, with total costs less than \$80 per month. As proposed by the proponents of the ABC plan, in order to meet their proposed budget target, these areas would not be eligible for ongoing support.

The ABC model calculates the total cost to serve, including initial capex as well as ongoing capex and opex.

Because of the focus on lower-cost areas, staff assumed that end-user revenue would meet or exceed ongoing costs, and therefore focused only on a subsidy for the initial investment. The ABC model calculates costs for a greenfield 12,000-foot-loop DSL plant. Since the focus here is on upgrading existing lines to broadband, staff had to estimate the cost associated only with that upgrade. To do so, staff excluded the capital costs associated with the last 12,000 feet of copper, which staff assumed already exist; these costs are captured in the ABC filing, in the file named CBG_Detail, as Node3Inv_Res, Node4Inv_Res, Node3Inv_Bus, and Node4Inv_Bus. The cost of upgrading is the total investment (TotalInv_Res plus TotalInv_Bus) less the capital costs for the last 12,000 feet of copper. That total cost is then divided by the total number of locations (TotalActiveSubscribers_Res plus TotalActiveSubscribers_Bus, divided by 0.9 to get locations instead of subscribers, given that the CQBAT model assumed that 90 percent of locations would subscribe) to get the initial investment per location in each census block group.

Staff then focused only on those parts of low-cost census block groups that are unserved by cable and by telco broadband in price cap areas. Census block groups were arranged from lowest to highest cost (for the cost of the brownfield costs described above), and the 25th, 50th (median), and 75th percentile by locations were determined to be \$529, \$764, and \$1,057 respectively.

²²⁸ See *infra* paras. 184-185.

²²⁹ See Letter from Michael D. Saperstein, Frontier Communications, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-92, et al. (filed Oct. 20, 2011); Letter from Jeffrey S. Lanning, CenturyLink, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 10-90, et al. (filed Oct. 20, 2011); see also Letter from Russell M. Blau, counsel for Consolidated Communications, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 10-90, et al., Attach. at 2 (filed Oct. 19, 2011) (providing an estimate of the per-line cost to provide 6 Mbps downstream and 1.5 Mbps upstream service to all 7,500 customers in its service area to whom Consolidated does not currently offer broadband service).

estimate of an interim performance obligation for this one-time support. We also emphasize that CAF Phase I incremental support is optional—carriers that cannot meet our broadband deployment requirement may decline to accept incremental support or may choose to accept only a portion of the amount for which they are eligible.

145. We find that, in this interim support mechanism, setting our broadband deployment obligations based on the costs of deploying to lower-cost wire centers that would not otherwise be served, even though we base support on the predicted costs of the highest-cost wire centers, is reasonable because we are trying to expand voice and broadband availability as much and as quickly as possible. We distribute support based on the costs of the highest-cost wire centers because the ultimate goal of our reforms is to ensure that *all* areas get broadband-capable networks, whether through the operation of the market or through support from USF. In this interim mechanism, we distribute funding to those carriers that provide service in the highest-cost areas because these are the areas where we can be most confident, based on available information, that USF support will be necessary in order to realize timely deployment. Thus, we can be confident we are allocating support to carriers that will need it to deploy broadband in some portion of their service territory. At the same time, to promote the most rapid expansion of broadband to as many households as possible, we wish to encourage carriers to use the support in lower-cost areas where there is no private sector business case for deployment of broadband, to the extent carriers also serve such areas. Although at this time we lack data sufficient to identify these areas, we can encourage this use of funding by setting the deployment requirement based on our overall estimate of upgrade costs in lower cost unserved areas, while providing carriers flexibility to allocate funding to these areas, rather than the highest cost wire centers identified by the cost-estimation equation. Accordingly, while we allocate CAF Phase I support on the basis of carriers' service to the highest-cost areas, we allow carriers to use that support in lower-cost areas, and we size their deployment obligations accordingly. We note that, historically, carriers have always been able to use support in wire centers other than the ones for which support is paid, and nothing in the Act constrains that flexibility such that it applies only within state boundaries. Accordingly, in the context of this interim mechanism, we will permit carriers to continue to have such flexibility.

146. Within 90 days of being informed of the amount of incremental support it is eligible to receive, each carrier must provide notice to the Commission, the Administrator, the relevant state or territorial commission, and any affected Tribal government, identifying the amount of support it wishes to accept and the areas by wire center and census block in which the carrier intends to deploy broadband to meet its obligation, or stating that the carrier declines to accept incremental support for that year.²³⁰ Carriers accepting incremental support must make the following certifications. First, the carrier must certify that deployment funded through CAF Phase I incremental support will occur in areas shown on the most current version of the National Broadband Map as unserved by fixed broadband with a minimum speed of 768 kbps downstream and 200 kbps upstream, and that, to the best of the carrier's knowledge, are, in fact, unserved by fixed broadband at those speeds.²³¹ Second, the carrier must certify that the

²³⁰ Because carriers will accept or decline incremental support on a holding company basis, carriers should notify USAC regarding which ETC operating company or companies USAC should disburse funds to.

²³¹ The National Broadband Map divides broadband transmission technologies into 12 types: asymmetric xDSL, symmetric xDSL, other copper wireline, cable modem - DOCSIS 3.0, cable modem - other, satellite, terrestrial fixed wireless - unlicensed, terrestrial fixed wireless - licensed, terrestrial mobile wireless - licensed, electric power line, and all other. The term "unserved by fixed broadband" for the purpose of CAF Phase I includes areas not identified by the National Broadband Map as served by at least one of the following technologies: asymmetric xDSL, symmetric xDSL; other copper wireline; cable modem - DOCSIS 3.0; cable modem - other; electric power line; terrestrial fixed wireless - unlicensed; and terrestrial fixed wireless - license. For the purposes of CAF Phase I we find it appropriate to distinguish fixed from mobile broadband service. *See supra* note 134. We acknowledge that some have claimed that the National Broadband Map is not completely accurate. Nevertheless, we find that using it (continued...)

carrier's current capital improvement plan did not already include plans to complete broadband deployment to that area within the next three years,²³² and that CAF Phase I incremental support will not be used to satisfy any merger commitment or similar regulatory obligation.²³³

147. Carriers must complete deployment to no fewer than two-thirds of the required number of locations within two years, and all required locations within three years, after filing their notices of acceptance. Carriers must provide a certification to that effect to the Commission, the Administrator, the relevant state or territorial commission, and any affected Tribal government, as part of their annual certifications pursuant to new section 54.313 of our rules, following both the two-thirds and completion milestones. To fulfill their deployment obligation, carriers must offer broadband service of at least 4 Mbps downstream and 1 Mbps upstream,²³⁴ with latency sufficiently low to enable the use of real-time communications, including VoIP, and with usage limits, if any, that are reasonably comparable to those for comparable services in urban areas.²³⁵ Carriers failing to meet a deployment milestone will be required to return the incremental support distributed in connection with that deployment obligation and will be potentially subject to other penalties, including additional forfeitures, as the Commission deems appropriate. If a carrier fails to meet the two-thirds deployment milestone within two years and returns

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in this way, along with our requirement that carriers certify that the areas to which they intend to deploy are unserved to the best of each carrier's knowledge, is a reasonable and efficient means to identify areas that are, in fact, unserved, even if there might be other areas that are also unserved.

²³² If a carrier's pre-existing capital improvement plan provided for build out to an area within three years on the assumption that the carrier would get support under our existing high-cost mechanisms, the carrier could not make this certification for that area. We anticipate that carriers will adjust their capital improvement plans in light of our reforms, which will provide additional incremental funding to many carriers to reach areas where they otherwise did not intend to deploy broadband. A carrier that intends to use incremental CAF Phase I funding to deploy broadband to such an area could make the required certification for that area.

²³³ Other similar obligations include, but are not limited to, BIP deployment obligations or state-funded broadband deployment obligations.

We note that Frontier Communications has already committed, pursuant to the transfer of Verizon properties to Frontier, to the following: Within areas transferred from Verizon to Frontier, Frontier will offer broadband service delivering at least 4 Mbps downstream to at least 70 percent of housing units by the end of 2012, to at least 75 percent of housing units by the end of 2013, to at least 80 percent of housing units by the end of 2014, and to at least 85 percent of housing units by the end of 2015. Frontier will offer at least 1 Mbps upstream to those housing units built after the transaction closed. Frontier will offer these services to both residential and small business users. *In the Matter of Applications Filed by Frontier Communications Corp. & Verizon Communications Inc. for Assignment or Transfer of Control*, 25 FCC Rcd 5972, 6001 (2010).

Similarly, CenturyLink, pursuant to its merger with Qwest, committed to, among other things, the following: Within areas transferred from Qwest to CenturyLink, CenturyLink will offer broadband service delivering at least 5 Mbps downstream to at least 62 percent of living units within three years of the merger closing date, to at least 68 percent of living units within five years of the merger closing date, and to at least 78.8 percent of living units within seven years of the merger closing date. *In the Matter of Applications filed by Qwest Communications International Inc. and CenturyTel, Inc. d/b/a CenturyLink for Consent to Transfer Control*, WC Docket No. 10-110, Memorandum Opinion and Order, 26 FCC Rcd 4194, 4219 (2011).

These obligations are independent of obligations Frontier or CenturyLink would incur in return for receiving CAF Phase I support, and that such support cannot be used to satisfy Frontier's or CenturyLink's pre-existing obligations.

²³⁴ Upon a showing that the specified support amount is inadequate to enable build out of broadband with actual upstream speeds of at least 1 Mbps to the required number of locations, a carrier may request a waiver.

²³⁵ See *supra* Section VI.B.1.

the incremental support provided, and then meets its full deployment obligation associated with that support by the third year, it will be eligible to have support it returned restored to it.

148. Our expectation is that CAF Phase II will begin on January 1, 2013. However, absent further Commission action, if CAF Phase II has not been implemented to go into effect by that date, CAF Phase I will continue to provide support as follows. Annually, no later than December 15, the Bureau will announce via Public Notice CAF Phase I incremental support amounts for the next term of incremental support, indicating whether support will be allocated for the full year or for a shorter term. We delegate to the Wireline Competition Bureau the authority to adjust the term length of incremental support amounts, and to pro-rate obligations as appropriate, to the extent Phase II CAF is anticipated to be implemented on a date after the beginning of the calendar year. The amount of incremental support to be distributed during a term will be calculated in the manner described above, based on allocating \$300 million through the incremental support mechanism, but that amount will be reduced by a factor equal to the portion of a year that the term will last.²³⁶ Within 90 days of the beginning of each term of support, carriers must provide notice to the Commission, the relevant state commission, and any affected Tribal government, identifying the amount of support it wishes to accept and the areas by wire center and census block in which the carrier intends to deploy broadband or stating that the carrier declines to accept incremental support for that term, with the same certification requirements described above.²³⁷

149. CAF Phase I will also begin the process of transitioning all federal high-cost support to price cap carriers to supporting modern communications networks capable of supporting voice and broadband in areas without an unsubsidized competitor. Effective January 1, 2012, we require carriers to use their frozen high-cost support in a manner consistent with achieving universal availability of voice and broadband. If CAF Phase II has not been implemented to go into effect on or before January 1, 2013, we will phase in a requirement that carriers use such support for building and operating broadband-capable networks used to offer their own retail service in areas substantially unserved by an unsubsidized competitor.²³⁸

²³⁶ For example, if the Bureau sets a term as six months, only \$150 million will be allocated. Support amounts would be calculated by first calculating the amount of support each carrier would be entitled to if the full \$300 million were to be allocated, and then reducing the amount for which each carrier is eligible proportionately. While this approach should ensure that total funding to price cap territories in the year in which CAF Phase II is implemented remains below the overall annual budget for price cap territories of \$1.8 billion, we direct the Bureau to ensure the overall annual budget of \$1.8 billion for price cap territories is not exceeded.

²³⁷ For purposes of this Order, a carrier accepting incremental support in terms after 2012 will be required to deploy broadband to a number of locations equal to the amount of incremental support it accepts divided by \$775, similar to the obligation for accepting support in 2012.

²³⁸ Support should be used to further the goal of universal voice and broadband, and not to subsidize competition in areas where an unsubsidized competitor is providing service. However, we recognize that certain expenditures, such as investments in a digital subscriber line access multiplexer (DSLAM) and/or middle mile infrastructure, that benefit a geographic area unserved by an unsubsidized competitor may also benefit some locations where an unsubsidized competitor provides service. We do not intend to preclude such investments. While we expect CAF recipients to use support in areas without an unsubsidized competitor, to the extent support is used to serve any geographic area that is partially served by an unsubsidized competitor, the recipient must certify that, with respect to the frozen high-cost support dollars subject to this obligation, at least 50 percent of the locations served are in census blocks shown as unserved by an unsubsidized competitor, as shown on the National Broadband Map. For example, if a given middle mile feeder for which frozen high-cost support dollars are used serves 100 locations, and only 40 of those locations are in census blocks shown as unserved by an unsubsidized competitor on the National Broadband Map, the recipient would not be in compliance with this requirement. For purposes of determining whether this requirement is met, carriers must be prepared to provide asset records demonstrating the existence of facilities, such (continued...)

150. Specifically, in 2013, all carriers receiving frozen high-cost support must use at least one-third of that support to build and operate broadband-capable networks used to offer the provider's own retail broadband service in areas substantially unserved by an unsubsidized competitor.²³⁹ For 2014, at least two-thirds of the frozen high-cost support must be used in such fashion, and for 2015 and subsequent years, all of the frozen high-cost support must be spent in such fashion. Carriers will be required to certify that they have spent frozen high-cost support consistent with these requirements in their annual filings pursuant to new section 54.313 of our rules.

151. These interim reforms to our support mechanisms for price cap carriers are an important step in the transition to full implementation of the Connect America Fund. While we intend to complete implementation of the CAF rapidly, we find that these interim reforms offer immediate improvements over our existing support mechanisms. First, existing support for price cap carriers will be frozen and no longer calculated based on embedded costs. Rather, we begin the process of transitioning all high-cost support to forward-looking costs and market-based mechanisms, which will improve incentives for carriers to invest efficiently. Second, these reforms begin the process of eliminating the distinction, for the purposes of calculating high-cost support, between price cap carriers that are classified as rural and those that are classified as non-rural, a classification that has no direct or necessary relation to the cost of providing voice and broadband services. In this way, our support mechanisms will be better aligned with the text of section 254, which directs us to focus on the needs of consumers in "rural, insular, and high cost areas"²⁴⁰ but makes no reference to the classification of the *company* receiving support.²⁴¹ In addition, we note that the reforms we adopt today, which include providing immediate support to spur broadband deployment, can be implemented quickly, without the need to overhaul an admittedly dated cost model that does not reflect modern broadband network architecture.²⁴² Thus, although the simplified interim mechanism is imperfect in some respects, it will allow us to begin providing additional support to price cap carriers on a more efficient basis, while spurring immediate and material broadband deployment pending implementation of CAF competitive bidding- and model-based support for price cap areas.²⁴³

152. *No Effect on Interstate Rates.* Historically, IAS was intended to replace allowable common line revenues that otherwise are not recovered through SLCs, while some carriers received frozen ICLS because, due to the timing of their conversion to price cap regulation, they could not receive IAS.²⁴⁴ We note that many price cap carriers did not object to the elimination of the IAS mechanism, as long as it did not occur before the implementation of CAF.²⁴⁵ We have no indication that these price cap

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as a DSLAM and/or middle mile plant, that serve locations in census blocks where there is no unsubsidized competitor.

²³⁹ See *supra* para. 103. We note that this obligation applies to carriers, regardless of whether or not they accept CAF Phase I incremental support.

²⁴⁰ 47 U.S.C. § 254(b)(3) (emphasis added).

²⁴¹ See 47 U.S.C. § 153(37).

²⁴² We note that the State Members of the Joint Board recommended as part of their comprehensive plan that the Commission continue to use its existing cost model, with some modifications. State Members *USF/ICC Transformation NPRM* Comments at 37.

²⁴³ See *infra* Section VII.C.2.

²⁴⁴ See *supra* note 207.

²⁴⁵ CenturyLink/Qwest *USF/ICC Transformation NPRM* Comments at 26-28; Frontier *USF/ICC Transformation NPRM* Comments at 12-14; Frontier *USF/ICC Transformation NPRM* Reply Comments at 11-12 (supporting Windstream proposal); Independent Tel. & Telecom. Alliance *USF/ICC Transformation NPRM* Comments at 9-11; (continued...)

carriers expect to raise their SLCs, presubscribed interexchange carrier charges, or other interstate rates as a result of any reform that would eliminate IAS. For clarity, however, we specifically note that while carriers receive support under CAF Phase I, the amount of their frozen high cost support equal to the amount of IAS for which each carrier was eligible in 2011 as being received under IAS, including, but not limited to, for the purposes of calculating interstate rates will be treated as IAS for purposes of our existing rules. To the extent that a carrier believes that it cannot meet its obligations with the revenues it receives under the CAF and ICC reforms, it may avail itself of the total cost and earnings review process described below.²⁴⁶

153. *Elimination of State Rate Certification Filings.* Under section 54.316 of our existing rules, states are required to certify annually whether residential rates in rural areas of their state served by non-rural carriers are reasonably comparable to urban rates nationwide.²⁴⁷ As part of the reforms we adopt today, however, we require carriers to file rate information directly with the Commission.²⁴⁸ For this reason, we conclude that continuing to impose this obligation on the states is unnecessary, and we relieve state commissions of their obligations under that provision.²⁴⁹

154. *Hawaiian Telcom Petition for Waiver.* Hawaiian Telcom, a non-rural price cap incumbent local exchange carrier, previously sought a waiver of certain rules relating to the support to which it would be entitled under the high-cost model.²⁵⁰ As Hawaiian Telcom explained, it received no high-cost model support at all because support under the model was based not on the estimated costs of individual wire centers but rather the statewide average of the costs of all individual wire centers included in the model.²⁵¹ In its petition, Hawaiian Telcom requested that its support under the model be determined on a wire center basis, without regard to the statewide average of estimated costs calculated under the high-cost model.²⁵²

155. In light of the reforms we adopt today for support to price cap carriers, we deny the Hawaiian Telcom petition. We note that our reforms are largely consistent with the thrust of Hawaiian Telcom's petition. Phase II support will not involve statewide averaging of costs determined by a model, but instead will be determined on a much more granular basis. In Phase I, we adopt, on an interim basis, a new method for distributing support to price cap carriers. While we freeze existing support, we provide incremental support to price cap carriers through a mechanism that, consistent with Hawaiian Telcom's proposal, identifies carriers serving the highest-cost wire centers but does not average wire center costs in

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Verizon and Verizon Wireless *USF/ICC Transformation NPRM* Comments at 50-51; Windstream *USF/ICC Transformation NPRM* Comments at 44.

²⁴⁶ See *infra* Section XIII.G.

²⁴⁷ See 47 C.F.R. § 54.316.

²⁴⁸ See *infra* para. 592.

²⁴⁹ We note that under our existing rules, states are also required to certify that carriers have used non-rural support (*i.e.*, high cost model support) for the provision, maintenance, and upgrading of the facilities and services for which it is intended. See 47 C.F.R. § 54.313. A similar obligation applies with regard to support to rural carriers. See 47 C.F.R. § 54.314. As described in more detail below, we simplify our rules and combine these two provisions. See *infra* para. 613.

²⁵⁰ See Hawaiian Telcom, Inc. Petition for Waiver of Sections 54.309 and 54.313(d)(vi) of the Commission's Rules, WC Docket No. 08-4 (filed Dec. 31, 2007).

²⁵¹ See *id.* at 4.

²⁵² See *id.* at 1.

a state. We therefore believe that the reforms we adopt today will achieve the relief Hawaiian Telcom seeks in its waiver petition and that, to the extent they do not, Hawaiian Telcom may seek additional targeted support through a request for waiver.

2. New Framework for Ongoing Support in Price Cap Territories

156. In this section, we adopt Phase II of the Connect America Fund: a framework for extending broadband to millions of unserved locations over a five-year period, including households, businesses, and community anchor institutions, while sustaining existing voice and broadband services. CAF Phase II will have an annual budget of no more than \$1.8 billion. To distribute this funding, we will use a combination of competitive bidding and a new forward-looking model of the cost of constructing modern multi-purpose networks. Using the model, we will estimate the support necessary to serve areas where costs are above a specified benchmark, but below a second “extremely high-cost” benchmark. The Commission will offer each price cap ETC a model-derived support amount in exchange for a commitment to serve all locations in its service territory in a state that, based on the model, fall within the high-cost range and are not served by a competing, unsubsidized provider. As part of this state-level commitment, the ETC will be required to ensure that the service it offers meets specified voice and broadband performance criteria. In areas where the price cap ETC refuses the state-level commitment, support will be determined through a competitive bidding mechanism.

157. In order to expedite adoption of the model to determine statewide support amounts in price cap areas, we delegate to the Wireline Competition Bureau the task of selecting a specific engineering cost model and associated inputs that meet the criteria specified below. We anticipate adoption of the selected model by the end of 2012 for purposes of providing support beginning January 1, 2013.

a. Budget for Price Cap Areas

158. Within the total \$4.5 billion annual budget, we set the total annual CAF budget for areas currently served by price cap carriers at no more than \$1.8 billion for a five-year period.²⁵³ In 2010, the most recent year for which complete disbursement data are available, price cap carriers and their rate-of-return affiliates received approximately \$1.076 billion in support.²⁵⁴ Collectively, more than 83 percent of the unserved locations in the nation are in price cap areas,²⁵⁵ yet such areas currently receive approximately 25 percent of high-cost support.²⁵⁶

159. We conclude that increased support to areas served by price cap carriers, coupled with rigorous, enforceable deployment obligations, is warranted in the near term to meet our universal service mandate to unserved consumers residing in these communities. At the same time, we seek to balance many competing demands for universal service funds, including the need to extend advanced mobile services and to preserve and advance universal service in areas currently served by rate-of-return companies. Budgeting up to \$1.8 billion for price cap territories, in our judgment, represents a reasonable

²⁵³ For purposes of CAF Phase II, consistent with our approach in CAF Phase I, we will treat as price cap carriers the rate-of-return operating companies that are affiliated with holding companies for which the majority of access lines are regulated under price caps. A “price cap territory” therefore includes a study area served by a rate-of-return operating company affiliated with price cap companies.

²⁵⁴ See Federal Communications Commission, Staff Analysis of 2010 High-Cost Disbursement Data, *available at* <http://www.fcc.gov/document/universal-service-high-cost-program-disbursements> (2010 Disbursement Analysis). Price cap study areas received approximately \$1.036 billion. See *id.*

²⁵⁵ See *supra* para. 127. This figure does not include unserved locations in the service areas of rate-of-return carriers affiliated with price cap carriers.

²⁵⁶ In 2010, high-cost USF disbursements totaled \$4.268 billion. See 2010 Disbursement Analysis.

balance of these considerations. We also stress that these subsidies will go to carriers serving price cap areas, not necessarily incumbent price cap carriers. Before 2018, we will re-evaluate the need for ongoing support at these levels and determine how best to drive support to efficient levels, given consumer demand and technological developments at that time.

b. Price Cap Public Interest Obligations

160. Price cap ETCs that accept a state-level commitment must provide broadband service that is reasonably comparable to terrestrial fixed broadband service in urban America. Specifically, price cap ETCs that receive model-based CAF support will be required, for the first three years they receive support, to offer broadband at actual speeds of at least 4 Mbps downstream and 1 Mbps upstream, with latency suitable for real-time applications, such as VoIP, and with usage capacity reasonably comparable to that available in comparable offerings in urban areas. By the end of the third year, ETCs must offer at least 4 Mbps/1 Mbps broadband service to at least 85 percent of their high-cost locations – including locations on Tribal lands – covered by the state-level commitment, as described below. By the end of the fifth year, price cap ETCs must offer at least 4 Mbps/1 Mbps broadband service to all supported locations, and at least 6 Mbps/1.5 Mbps to a number of supported locations to be specified.

161. We establish the 85 percent third-year milestone to ensure that recipients of funding remain on track to meet their performance obligations. While a number of parties agreed generally with the concept of setting specific, enforceable interim milestones to safeguard the use of public funds,²⁵⁷ there are few concrete suggestions in the record on what those intermediate deadlines should be. We agree with the State Members of the Joint Board that there should be intermediate milestones for the required broadband deployment obligations.²⁵⁸ We set an initial requirement of offering broadband to at least 85 percent of supported locations by the end of the third year, and to all supported locations by the end of the fifth year.²⁵⁹ As set forth more fully below,²⁶⁰ recipients of funding will be required annually to report on their progress in extending broadband throughout their areas and must meet the interim deadline established for the third year, or face loss of support.

162. Before the end of the fifth year, we expect to have reviewed our minimum broadband performance metrics in light of expected increases in speed, and other broadband characteristics, in the intervening years. Based on the information before us today, we expect that consumer usage of applications, including those for health and education, may evolve over the next five years to require speeds higher than 4 Mbps downstream/1 Mbps upstream.²⁶¹ For this reason, we expect ETCs to build robust, scalable networks that will provide speeds of at least 6 Mbps/1.5 Mbps to a number of supported locations to be determined in the model development process, as set forth more fully below.

163. After the end of the five-year term of CAF Phase II, the Commission expects to be distributing all CAF support in price cap areas pursuant to a market-based mechanism, such as

²⁵⁷ CWA *August 3 PN* Comments at 4; NASUCA *August 3 PN* Comments at 86 (supporting State Members deployment milestones proposal); TIA *August 3 PN* Comments at 5 (opposing State Members proposal of losing funding for failing to meet milestones, but supporting flexible deployment milestones).

²⁵⁸ State Members *USF/ICC Transformation NPRM* Comments at 63.

²⁵⁹ The State Members suggested that support be reduced if a carrier failed to provide 1.5 Mbps service to 95 percent of the residential locations in its study area by year three. *Id.* We recognize, however, that carriers typically would extend service on a project-by-project basis, and therefore adopt a lower percentage milestone relative to the higher 4 Mbps/1 Mbps standard.

²⁶⁰ See *infra* para. 585.

²⁶¹ See *supra* paras. 106-107.

competitive bidding.²⁶² However, if such a mechanism is not implemented by the end of the five-year term of CAF Phase II, the incumbent ETCs will be required to continue providing broadband with performance characteristics that remain reasonably comparable to the performance characteristics of terrestrial fixed broadband service in urban America, in exchange for ongoing CAF Phase II support.

c. Methodology for Allocating Support

164. *Background.* In the *USF/ICC Transformation NPRM*, the Commission sought comment on alternative approaches for determining CAF recipients and appropriate amounts of ongoing CAF support that would replace all existing high-cost funding.²⁶³ Under one option, the Commission proposed to use a competitive bidding mechanism to award funding to one provider per geographic area in all areas designated to receive CAF support.²⁶⁴ Under another option, the Commission proposed to offer the current carrier of last resort in each service area (typically an incumbent telephone company) a right of first refusal to serve the area for an ongoing amount of annual support based on a forward-looking cost model, with ongoing support awarded through a competitive bidding mechanism where the right of first refusal was refused.²⁶⁵ We also sought comment on limiting the full transition to the CAF to a subset of geographic areas, such as those served by price cap companies, while continuing to provide ongoing support to smaller, rate-of-return companies based on reasonable actual investment.²⁶⁶

165. *Discussion.* We conclude that the Connect America Fund should ultimately rely on market-based mechanisms, such as competitive bidding, to ensure the most efficient and effective use of public resources. However, the CAF is not created on a blank slate, but rather against the backdrop of a decades-old regulatory system. The continued existence of legacy obligations, including state carrier of last resort obligations for telephone service, complicate the transition to competitive bidding. In the transition, we seek to avoid consumer disruption—including the loss of traditional voice service—while getting robust, scalable broadband to substantial numbers of unserved rural Americans as quickly as possible. Accordingly, we adopt an approach that enables competitive bidding for CAF Phase II support in the near-term in some price cap areas, while in other areas holding the incumbent carrier to broadband and other public interest obligations over large geographies in return for five years of CAF support.

166. Specifically, we adopt the following methodology for providing CAF support in price cap areas. First, the Commission will model forward-looking costs to estimate the cost of deploying broadband-capable networks in high-cost areas and identify at a granular level the areas where support will be available. Second, using the cost model, the Commission will offer each price cap LEC annual support for a period of five years in exchange for a commitment to offer voice across its service territory within a state and broadband service to supported locations within that service territory, subject to robust public interest obligations and accountability standards.²⁶⁷ Third, for all territories for which price cap LECs decline to make that commitment, the Commission will award ongoing support through a

²⁶² See *infra* section XVII.J (Competitive Process in Price Cap Territories). We anticipate that the performance requirements adopted by the Commission for the auction in areas where the state-level commitment is declined may be different from the performance requirements used for the post-five-year auction, in part because of the difference in timing and likely changes in network capabilities and consumer demand.

²⁶³ *USF/ICC Transformation NPRM*, 26 FCC Rcd at 4677, para. 400, 4681-92, paras. 417-56.

²⁶⁴ *Id.* at 4677, para. 400, 4681-84, paras. 418-30.

²⁶⁵ *Id.* at 4677, para. 400, 4684-90, paras. 431-47.

²⁶⁶ *Id.* at 4677, para. 401, 4689-92, paras. 447-56.

²⁶⁷ We seek comment in the FNPRM whether and how to adjust ETC voice service obligations in areas where the ETC is no longer receiving federal support. See *infra* Section XVII.F.

competitive bidding mechanism.

167. *Determination of Eligible Areas.* We will use a forward-looking cost model to determine, on a census block or smaller basis, areas that will be eligible for CAF Phase II support.²⁶⁸ In doing so, we will allocate our budget of no more than \$1.8 billion for price cap areas to maximize the number of expensive-to-serve residences, businesses, and community anchor institutions that will have access to modern networks providing voice and robust, scalable broadband.²⁶⁹ Specifically, we will use the model to identify those census blocks where the cost of service is likely to be higher than can be supported through reasonable end-user rates alone, and, therefore, should be eligible for CAF support. We will also use the model to identify, from among these, a small number of extremely high-cost census blocks that should receive funding specifically set aside for remote and extremely high-cost areas, as described below,²⁷⁰ rather than receiving CAF Phase II support, in order to keep the total size of the CAF and legacy high-cost mechanisms within our \$4.5 billion budget.

168. This methodology balances our desire to extend robust, scalable broadband to all Americans with our recognition that the very small percentage of households that are most expensive to serve via terrestrial technology represent a disproportionate share of the cost of serving currently unserved areas.²⁷¹ In light of this fact, the State Members of the Joint Board propose that universal service support be limited to not more than \$100 per high-cost location per month, which they suggest is somewhat higher than the prevailing retail price of satellite service.²⁷² Similarly, ABC Plan proponents recommend an alternative technology benchmark of \$256 per month based on the plan proponents' cost model – the CostQuest Broadband Analysis Tool (CQBAT) – which would limit support per location to no more than \$176 per month (\$256 - \$80 cost benchmark).²⁷³ We agree that the highest cost areas are more appropriately served through alternative approaches, and in the FNPRM we seek comment on how best to utilize at least \$100 million in annual CAF funding to maximize the availability of affordable broadband in such areas. Here, we adopt a methodology for calculating support that will target support to areas that exceed a specified cost benchmark, but not provide support for areas that exceed an “extremely high cost” threshold.

²⁶⁸ Areas with particularly low population density have large census blocks, which may overlap company boundaries. For example, some blocks may have areas partially served by a rate-of-return carrier, so these areas would not be eligible for the support available to price cap carriers. The Wireline Competition Bureau will address this issue in conjunction with finalization of the cost model that will be developed with public input. *See infra* paras. 192-193. We believe this flexibility would also allow us to address the concerns raised by the state of Hawaii. *See* Letter from Bruce A. Olcott, Counsel to the State of Hawaii, to Hon. Julius Genachowski, Chairman, FCC at 2, WC Docket Nos. 10-90, 07-135, 05-337, 03-109; CC Docket Nos. 01-92, 96-45; GN Docket No. 09-51 (Oct. 19, 2011).

²⁶⁹ The reference to community anchor institutions should not signal an intention that the model will skew more funds to communities that have community anchor institutions. In fact, it may be the case that the most unserved areas do not have community anchor institutions due to their low population density.

²⁷⁰ *See infra* Section VII.F.

²⁷¹ *See, e.g.,* National Broadband Plan at 138, 150.

²⁷² State Members *USF/ICC Transformation Comments*, at 59.

²⁷³ *See* Letter from Robert W. Quinn, Jr., AT&T, Steve Davis, CenturyLink, Michael T. Skrivan, FairPoint, Kathleen Q. Abernathy, Frontier, Kathleen Grillo, Verizon, and Michael D. Rhoda, Windstream, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 10-90 et al., Attach. 2 at 2, Attach. 3 (filed July 29, 2011) (ABC Plan).

169. We delegate to the Wireline Competition Bureau the responsibility for setting the extremely high-cost threshold in conjunction with adoption of a final cost model. The threshold should be set to maintain total support in price cap areas within our up to \$1.8 billion annual budget.²⁷⁴

170. In determining the areas eligible for support, we will also exclude areas where, as of a specified future date as close as possible to the completion of the model and to be determined by the Wireline Competition Bureau, an unsubsidized competitor offers affordable broadband that meets the initial public interest obligations that we establish in this Order for CAF Phase I, i.e., speed, latency, and usage requirements.²⁷⁵ The model scenarios submitted by the ABC Plan proponents excluded areas already served by a cable company offering broadband.²⁷⁶ State Members propose, at a minimum, excluding areas with unsubsidized wireline competition, and suggested that areas with reliable 4G wireless service could also be excluded.²⁷⁷ In an “Amended ABC Plan,” NCTA proposes to exclude areas where there is an unsupported wireline or wireless broadband competitor, and areas that received American Recovery and Reinvestment Act stimulus funding from RUS or NTIA to build broadband facilities.²⁷⁸ We conclude, on balance, that it would be appropriate to exclude any area served by an unsubsidized competitor that meets our initial performance requirements, and we delegate to the Wireline Competition Bureau the task of implementing the specific requirements of this rule.

171. *State-Level Commitment.* Following adoption of the cost model, which we anticipate will be before the end of 2012, the Bureau will publish a list of all eligible census blocks associated with each incumbent price cap carrier within each state. After the list is published, there will be an opportunity for comments and data to be filed to challenge the determination of whether or not areas are unserved by an unsubsidized competitor. Each incumbent carrier will then be given an opportunity to accept, for each state it serves, the public interest obligations associated with all the eligible census blocks in its territory, in exchange for the total model-derived annual support associated with those census blocks, for a period of five years. The model-derived support amount associated with each census block will be the difference between the model-determined cost in that census block, provided that cost is below the highest-cost threshold, and the cost benchmark used to identify high-cost areas. If the incumbent accepts the state-level broadband commitment, it shall be subject to the public interest obligations described above for all locations for which it receives support in that state, and shall be the presumptive recipient of the model-derived support amount for the five-year CAF Phase II period.²⁷⁹

²⁷⁴ We anticipate that less—and possibly much less—than one percent of all U.S. residences are likely to fall above the “extremely high-cost” threshold in the final cost model.

²⁷⁵ See *supra* paras. 103-104, 147.

²⁷⁶ See ABC Plan, Attach. 2. Three scenarios used a combination of cable coverage from both the NTIA and Warren Media, and one scenario used Nielsen data.

²⁷⁷ State Members *USF/ICC Transformation Comments* at 43.

²⁷⁸ NCTA *August 3 PN Comments*, Attach. at 3. NCTA argues that the ABC Plan will spend more money than necessary because it does not account for the availability of wireless broadband services (either fixed or mobile), wireline broadband services other than cable, or reasonably anticipate deployments, such as construction pursuant to Recovery Act stimulus funding from RUS or NTIA, announced deployment schedules for 4G wireless services, and construction commitments made in context of merger proceedings. *Id.* at 14-15.

²⁷⁹ In meeting its obligation to serve a particular number of locations in a state, an incumbent that has accepted the state-level commitment may choose to serve some census blocks with costs above the highest cost threshold instead of eligible census blocks (i.e., census blocks with lower costs), provided that it meets the public interest obligations in those census blocks, and provided that the total number of unserved locations and the total number of locations covered is greater than or equal to the number of locations in the eligible census blocks.

172. Carriers accepting a state-level commitment will receive funding for five years. At the end of the five-year term, in the areas where the price cap carriers have accepted the five-year state level commitment, we expect the Commission will use competitive bidding to award CAF support on a going-forward basis, and may use the competitive bidding structure adopted by the Commission for use in areas where the state-level commitment is declined.²⁸⁰

173. We conclude that the state-level commitment framework we adopt is preferable to the right of first refusal approach proposed by the Commission in the *USF/ICC Transformation NPRM*, which would have been offered at the study area level,²⁸¹ and to a right of first refusal offered at the wire center level, as proposed by some commenters.²⁸² Both of these approaches would have allowed price cap carriers to pick and choose on a granular basis the areas where they would receive model-based support within a state. This would allow the incumbent to cherry pick the most attractive areas within its service territory, leaving the least desirable areas for a competitive process. This concern was greatest with the ABC proposal, under which carriers would have been able to exercise a right of first refusal on a wire center basis, but also applies to the study area proposal in our NPRM. Although for some price cap carriers, their study areas are their entire service area within a state, other carriers still have many study areas within a state.²⁸³ These carriers may have acquired various properties over time and chosen to keep them as separate study areas for various reasons, including potentially to maximize universal service support. Rather than enshrine such past decisions in the new CAF, we conclude that it is more equitable to treat all price cap carriers the same and require them to offer service to all high-cost locations between an upper and lower threshold within their service territory in a state, consistent with the public interest obligations described above, in exchange for support. Requiring carriers to accept or decline a commitment for all eligible locations in their service territory in a state should reduce the chances that eligible locations that may be less economically attractive to serve, even with CAF support, get bypassed, and increase the chance such areas get served along with eligible locations that are more economically attractive.

174. In determining how best to award CAF support in price cap areas, we carefully weighed the risks and benefits of alternatives, including using competitive bidding everywhere, without first giving incumbent LECs an opportunity to enter a state-level service commitment. We conclude that, on balance, the approach we adopt will best ensure continued universal voice service and speed the deployment of broadband to all Americans over the next several years, while minimizing the burden on the Universal Service Fund.

175. In particular, several considerations support our determination not to immediately adopt competitive bidding everywhere for the distribution of CAF support. Because we exclude from the price cap areas eligible for support all census blocks served by an unsubsidized competitor,²⁸⁴ we will generally be offering support for areas where the incumbent LEC is likely to have the only wireline facilities, and there may be few other bidders with the financial and technological capabilities to deliver scalable

²⁸⁰ See *infra* Section XVII.J.

²⁸¹ *USF/ICC Transformation NPRM*, 26 FCC Rcd at 4684, para. 431 (proposing that a carrier accepting the right of first refusal would commit to deploying a network capable of delivering broadband and voice services “throughout its service area”).

²⁸² ABC Plan, Attach. 1.

²⁸³ CenturyLink, for example, has sixteen study areas in Wisconsin. See USAC Quarterly Administrative Filings, available at <http://www.usac.org/about/governance/fcc-filings/fcc-filings-archive.aspx> (for Fourth Quarter 2011, at HC01).

²⁸⁴ See *supra* para. 103.

broadband that will meet our requirements over time. In addition, it is our predictive judgment that the incumbent LEC is likely to have at most the same, and sometimes lower, costs compared to a new entrant in many of these areas.²⁸⁵ We also weigh the fact that incumbent LECs generally continue to have carrier of last resort obligations for voice services. While some states are beginning to re-evaluate those obligations, in many states the incumbent carrier still has the continuing obligation to provide voice service and cannot exit the marketplace absent state permission. On balance, we believe that that our approach best serves consumers in these areas in the near term, many of whom are receiving voice services today supported in part by universal service funding and some of whom also receive broadband, and will speed the delivery of broadband to areas where consumers have no access today.

176. We disagree with commenters who assert that the principle of competitive neutrality precludes the Commission from giving incumbent carriers an opportunity to commit to deploying broadband throughout their service areas in a state in exchange for five years of funding. The principle of competitive neutrality states that “[u]niversal service support mechanisms and rules should be competitively neutral,” which means that they should not “unfairly advantage nor disadvantage one provider over another, and neither unfairly favor nor disfavor one technology over another.”²⁸⁶ The competitive neutrality principle does not require all competitors to be treated alike, but “only prohibits the Commission from treating competitors differently in ‘unfair’ ways.”²⁸⁷ Moreover, neither the competitive neutrality principle nor the other section 254(b) principles impose inflexible requirements for the Commission’s formulation of universal service rules and policies. Instead, the “promotion of any one goal or principle should be tempered by a commitment to ensuring the advancement of each of the principles” in section 254(b).²⁸⁸

177. As an initial matter, we note that our USF reforms generally advance the principle of competitive neutrality by limiting support to only those areas of the nation that lack unsubsidized providers. Thus, providers that offer service without subsidy will no longer face competitors whose service in the same area is subsidized by federal universal service funding. Especially in this light, we conclude that any departure from strict competitive neutrality occasioned by affording incumbent LECs an opportunity to commit to deploying broadband in their statewide service areas is outweighed by the advancement of other section 254(b) principles, in particular, the principles that “[a]ccess to advanced telecommunications and information services should be provided in all regions of the Nation,” and that consumers in rural areas should have access to advanced services comparable to those available in urban areas.²⁸⁹ Although other classes of providers may be well situated to make broadband commitments with respect to relatively small geographic areas such as discrete census blocks, the purpose of the five-year commitment is to establish a limited, one-time opportunity for the rapid deployment of broadband

²⁸⁵ See *infra* para. 191, discussing the relative costs of wireless and wireline networks for residential and business broadband.

²⁸⁶ See *Universal Service First Report and Order*, 12 FCC Rcd at 8801, para. 47).

²⁸⁷ *Rural Cellular*, 588 F.3d at 1104.

²⁸⁸ *Universal Service First Report and Order*, 12 FCC Rcd at 8803, para. 52; see also *Qwest I*, 258 F.3d at 1199 (“The FCC may balance the principles against one another, but must work to achieve each one unless there is a direct conflict between it and either another listed principle or some other obligation or limitation on the FCC’s authority.”); *Alenco Communications, Inc. v. FCC*, 201 F.3d 608, 621 (5th Cir. 2000) (“We reiterate that predictability is only a principle, not a statutory command. To satisfy a countervailing statutory principle, therefore, the FCC may exercise reasoned discretion to ignore predictability.”); *Rural Cellular Ass’n*, 588 F.3d at 1103 (“The Commission enjoys broad discretion when conducting exactly this type of balancing.”) (citing *Fresno Mobile Radio, Inc. v. FCC*, 165 F.3d 965, 971 (D.C.Cir.1999)).

²⁸⁹ 47 U.S.C. § 254(b)(2), (3).

services over a large geographic area. The fact that incumbent LECs' have had a long history of providing service throughout the relevant areas – including the fact that incumbent LECs generally have already obtained the ETC designation necessary to receive USF support throughout large service areas – puts them in a unique position to deploy broadband networks rapidly and efficiently in such areas.²⁹⁰ We see nothing in the record that suggests a more competitively neutral way of achieving that objective quickly, without abandoning altogether the goal of obtaining large-area build-out commitments or substantially ballooning the cost of the program.²⁹¹

178. Moreover, it is important to emphasize the limited scope and duration of the state-level commitment procedure. Incumbent LECs are afforded only a one-time opportunity to make a commitment to build out broadband networks throughout their service areas within a state. If the incumbent declines that opportunity in a particular state, support to serve the unserved areas located within the incumbent's service area will be awarded by competitive bidding, and all providers will have an equal opportunity to seek USF support, as described below. Furthermore, even where the incumbent LEC makes a state-level commitment, its right to support will terminate after five years, and we expect that support after such five-year period will be awarded through a competitive bidding process in which all eligible providers will be given an equal opportunity to compete. Thus, we anticipate that funding will soon be allocated on a fully competitive basis. In light of all these considerations, we conclude that adhering to strict competitive neutrality at the expense of the state-level commitment process would unreasonably frustrate achievement of the universal service principles of ubiquitous and comparable broadband services and promoting broadband deployment, and unduly elevate the interests of competing providers over those of unserved and under-served consumers who live in high-cost areas of the country, as well as of all consumers and telecommunications providers who make payments to support the Universal Service Fund.

179. *Competitive Bidding.* In areas where the incumbent declines a state-level commitment, we will use a competitive bidding mechanism to distribute support. In the FNPRM, we propose to design this mechanism in a way that maximizes the extent of robust, scalable broadband service subject to the budget.²⁹² Assigning support in this way should enable us to identify those providers that will make most effective use of the budgeted funds, thereby extending services to as many consumers as possible. We propose to use census blocks as the minimum geographic unit eligible for competitive bidding and seek comment on ways to allow aggregation of such blocks. Although we propose using the same areas identified by the CAF Phase II model as eligible for support, we also seek comment on other approaches—for example, excluding areas served by any broadband provider, or using different cost

²⁹⁰ As noted above, incumbent LECs in many states are designated as the carriers of last resort and thus have a preexisting obligation to ensure service to consumers who request it. *See supra* para. 175.

²⁹¹ For example, NCTA proposes a commitment framework based upon counties rather than statewide service areas to accommodate the ability of other types of providers to make commitments. *See* NCTA Oct. 21, 2011 Letter Att. B, at 1. NCTA concedes, however, that “[c]ounties are smaller than . . . statewide ILEC study areas.” *Id.* at 2. For example, in Texas there are 254 counties but only five price cap companies. 2010 United States Census Data, http://www2.census.gov/census_2010/01-Redistricting_File--PL_94-171/ and documentation at <http://www.census.gov/prod/cen2010/doc/pl94-171.pdf>; 2010 Disbursement Analysis. Moreover, under NCTA's proposal, there may be greater delay in implementing any commitment because “[p]roviders that are not already designated ETCs would be required to certify that they will apply for ETC status if they are selected to receive support and must acknowledge that no support will be provided until ETC status is obtained.” *Id.* at 1. As noted, incumbent LECs typically have already obtained ETC designations and, therefore, could begin the buildout of broadband infrastructure to unserved areas more quickly.

²⁹² *See infra* Section XVII.J.

thresholds.²⁹³ We also seek targeted comment on other issues, including bidder eligibility, auction design, and auction process.

180. *Transition to New Support Levels.* Support under CAF Phase II will be phased in, in the following manner. For a carrier accepting the state-wide commitment, in the first year, the carrier will receive one-half the full amount the carrier will receive under CAF Phase II and one-half the amount the carrier received under CAF Phase I for the previous year (which would be the frozen amount if the carrier declines Phase I or the frozen amount plus the incremental amount if the carrier accepts Phase I); in the second year, each carrier accepting the state-wide commitment will receive the full CAF Phase II amount.²⁹⁴ For a carrier declining the state-wide commitment, the carrier will continue to receive support in an amount equal to its CAF Phase I support amount until the first month that the winner of any competitive process receives support under CAF Phase II; at that time, the carrier declining the state-wide commitment will cease to receive high-cost universal service support. No additional broadband obligations apply to funds received during the transition period. That is, carriers accepting the state-wide commitment are obliged to meet the Phase II broadband obligations described above, while carriers declining the state-wide commitment will be required to meet their pre-existing Phase I obligations, but will not be required to deploy additional broadband in connection with their receipt of transitional funding.

d. Forward-Looking Cost Model

181. *Background.* In the *USF Reform NOI/NPRM*, the Commission sought comment generally on whether we should develop a nationwide broadband model, and what type of model, to help determine support levels in areas where there is no private sector business case to provide broadband and voice services.²⁹⁵ In the *USF/ICC Transformation NPRM*, we proposed that the Commission use a green-field, “scorched node” approach in developing a broadband cost model, rather than a brown-field approach that assumes the existence of a last-mile copper network.²⁹⁶ We also noted that “[o]ver the lifetime of a network, the cost of a fiber-to-the-premises (FTTP) and short-loop (12,000-foot) DSL network may be basically equal, meaning that green-field costs are equivalent to those for a FTTP deployment.”²⁹⁷ In the *August 3 Public Notice*, the Bureau sought further comment on specific proposals for reform that would use a forward-looking cost model to determine support, including the State

²⁹³ See *infra* 1190.

²⁹⁴ To the extent a carrier will receive less money from CAF Phase II than it will receive under frozen high-cost support, there will be an appropriate multi-year transition to the lower amount. It is premature to specify the length of that transition now, before the cost model is adopted, but it will be addressed in conjunction with finalization of the cost model that will be developed with public input.

²⁹⁵ *Connect America Fund*, WC Docket No. 10-90, *A National Broadband Plan for Our Future*, GN Docket No. 09-51, *High-Cost Universal Service Support*, WC Docket No. 05-337, Notice of Inquiry and Notice of Proposed Rulemaking, 25 FCC Rcd 6657, 6665-6673, paras. 14-40 (2010) (*USF Reform NOI/NPRM*). Specifically, the Commission sought comment on whether we should develop a new model, rather than updating the Commission’s existing model; whether the model should estimate total costs or incremental costs; and whether the model should estimate revenues as well as costs. *Id.* at 6669-73, paras. 31-40.

²⁹⁶ See *USF/ICC Transformation NPRM*, 26 FCC Rcd at 4687, paras. 437-38.

²⁹⁷ *Id.* at 4684, para. 436 & n.617 (citing OBI Technical Paper No. 1). This observation was based on Commission staff analysis of the model used to create the National Broadband Plan. See *id.* at 4684, para. 436 n.617. We also sought more focused comment on developing a total cost model, rather than an incremental cost model, and on the difficulties in accurately estimating and modeling revenues. *Id.* at 4687, paras. 438-39.

Members' Plan, and the ABC Plan.²⁹⁸

182. The State Members' Plan proposes that the Commission continue to use its existing cost model – which was originally adopted in 1998 – with certain modifications. Specifically, they propose that the model: use current geocoded data for customer locations; be revised to account for current special access line counts by wire center; use a road-constrained minimum spanning tree to route plant; be adjusted to reflect the costs of actual distribution plant mix (aerial, buried, and underground); and include the costs of current calling usage and middle mile transport costs for Internet data.²⁹⁹ Under the State Members' Plan, support for all non-rural carriers would be determined by an updated version of the current model; rural carriers could receive model-determined support, but also could elect to have their support determined on an embedded cost basis.³⁰⁰

183. The ABC Plan Coalition proposes that the Commission use a different forward-looking cost model – the CQBAT – which estimates the greenfield costs of deploying a network with a maximum copper loop length of 12,000 feet.³⁰¹ The model estimates build-out investments and operating costs for each census block, and calculates support amounts based on a number of user-defined parameters.³⁰² The ABC Plan summarizes results from the CQBAT model under four different scenarios.³⁰³ Although the model itself was not filed in the record of this proceeding, the ABC Plan Coalition subsequently offered interested parties free online access to CQBAT results, subject to the terms of a protective order and licensing agreement, and more extensive access to the model for certain fees, subject to a mutual non-disclosure agreement, as well as the protective order and licensing agreement.³⁰⁴

184. *Discussion.* Although we agree with both the State Members and the ABC Plan proponents that we should use a forward-looking model to assist in setting support levels in price cap

²⁹⁸ *Further Inquiry into Certain Issues in the Universal Service-Intercarrier Compensation transformation Proceeding*, WC Docket Nos. 10-90, 07-135, 05-337, 03-109, CC Docket Nos. 01-92, 96-45, GN Docket No. 09-51, Public Notice, DA 11-1348 (Wireline Comp. Bur. rel. Aug. 3, 2011); State Members' *USF/ICC Transformation NPRM* Comments; ABC Plan.

²⁹⁹ State Members *USF/ICC Transformation NPRM* Comments at 37-38.

³⁰⁰ *Id.* at 36.

³⁰¹ See ABC Plan, Attach. 3 at 11, Fig. 1.

³⁰² See ABC Plan, Attach. 3 at 9, 19.

³⁰³ See ABC Plan, Attach. 2. The ABC Plan Coalition filed additional information regarding CQBAT results and inputs. See Letter from Jonathan Banks, US Telecom, to Marlene H. Dortch, Secretary, FCC, Docket No. 10-90 et al., (filed Aug. 16, 2011) (number of residential and business locations in served and unserved areas, and in areas that would be served by satellite as modeled; state-by-state support amounts); Letter from Mike Lieberman, AT&T, Jeffrey S. Lanning, CenturyLink, Michael T. Skrivan, FairPoint, Michael D. Saperstein, Jr., Frontier, Margaret McCready, Verizon, and Frank Schueneman, Windstream, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 10-90, et al. (filed Aug. 18, 2011) (inputs) (ABC Coalition Aug 18 Ex Parte).

³⁰⁴ See *Developing a Unified Intercarrier Compensation Regime, Establishing Just and Reasonable Rates for Local Exchange Carriers, Connect America Fund, High-Cost Universal Service Support, A National Broadband Plan for Our Future*, CC Docket No. 01-92, WC Docket Nos. 07-135, 10-90, 05, 337, GN Docket No. 09-51, Supplemental Protective Order, DA 11-1525 (rel. Sept. 9, 2011); Letter from Mike Lieberman, AT&T, Michael D. Saperstein, Jr., Frontier, Jeffrey S. Lanning, CenturyLink, Maggie McCready, Verizon, Michael T. Skrivan, Fairpoint Communications, Frank Schueneman, Windstream, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 10-90, et al. (filed Sept. 9, 2011); Letter from Mike Lieberman, AT&T, Michael D. Saperstein, Jr., Frontier, Jeffrey S. Lanning, CenturyLink, Maggie McCready, Verizon, Michael T. Skrivan, Fairpoint Communications, Frank Schueneman, Windstream, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 10-90, et al. (filed Sept. 28, 2011).

territories, we do not adopt the CQBAT cost model proposed by the ABC Coalition, nor do we accept the State Board's proposal that we simply update our existing cost model. Instead, we initiate a public process to develop a robust cost model for the Connect America Fund to accurately estimate the cost of a modern voice and broadband capable network, and delegate to the Wireline Competition Bureau the responsibility of completing it.

185. In light of the limited opportunity the public has received to review and modify the ABC Coalition's proposed CQBAT model, we reject the group's suggestion that we adopt that model at this time. The Commission has previously held that before any cost model may be "used to calculate the forward-looking economic costs of providing universal service in rural, insular, and high cost areas," the "model and all underlying data, formulae, computations, and software associated with the model must be available to all interested parties for review and comment. All underlying data should be verifiable, engineering assumptions reasonable, and outputs plausible."³⁰⁵ We see no reason to depart from this conclusion here, and the CQBAT model, as presented to the Commission at this time, does not meet this requirement.

186. We likewise reject the State Members' proposal to modify the Commission's existing cost model to estimate the costs of modern voice and broadband-capable network. The Commission's existing cost model does not fully reflect the costs associated with modern voice and broadband networks because the model calculates cost based on engineering assumptions and equipment appropriate to the 1990s. In addition, modeling techniques and capabilities have advanced significantly since 1998, when the Commission's existing high cost model was developed, and the new techniques could significantly improve the accuracy of modeled costs in a new model relative to an updated version of the Commission's existing model. For example, new models can estimate the costs of efficient routing along roads in a way that the older model cannot.³⁰⁶ We see the benefits of leveraging our existing model to rapidly deploy interim support, and we do just that for Phase I of the CAF. For the longer-term disbursement of support, however, we conclude that it is preferable to use a more accurate, up to date model based on modern techniques.

187. To expedite the process of finalizing the model to be used as part of the state-level commitment, we delegate to the Wireline Competition Bureau the authority to select the specific engineering cost model and associated inputs, consistent with this Order. For the reasons below, the model should be of wireline technology and at a census block or smaller level. In other respects, we direct the Wireline Competition Bureau to ensure that the model design maximizes the number of locations that will receive robust, scalable broadband within the budgeted amounts. Specifically, the model should direct funds to support 4 Mbps/1 Mbps broadband service to all supported locations, subject only to the waiver process for upstream speed described above, and should ensure that the most locations possible receive a 6 Mbps/1.5 Mbps or faster service at the end of the five year term, consistent with the CAF Phase II budget. The Wireline Competition Bureau's ultimate choice of a greenfield or brownfield model, the modeled architecture, and the costs and inputs of that model should ensure that the public interest obligations are achieved as cost-effectively as possible.

188. *Geographic Granularity.* We conclude that the CAF Phase II model should estimate costs at a granular level – the census block or smaller – in all areas of the country. Geographic

³⁰⁵ *Universal Service First Report and Order*, 12 FCC Rcd at 8913, 8915, para. 250.

³⁰⁶ The State Members advocate that we adopt a road-constrained minimum spanning tree to route plant as an "update" to the existing model, but we think this would change the model so fundamentally that the process involved would be comparable to the adoption of a new model. We anticipate that the new model will adopt the routing method the State Members suggest, although we delegate the final decision on this point to the Wireline Competition Bureau.

granularity is important in capturing the forward-looking costs associated with deploying broadband networks in rural and remote areas.³⁰⁷ Using the average cost per location of existing deployments in large areas, even when adjusted for differences in population and linear densities, presents a risk that costs may be underestimated in rural areas. Deployments in rural markets are likely to be subscale, so an analysis based on costs averaged over large areas, particularly large areas that include both low- and high-density zones, will be inaccurate. A granular approach, calculating costs based on the plant and hardware required to serve each location in a small area (i.e., census block or smaller), will provide sufficient geographic and cost-component granularity to accurately capture the true costs of subscale markets. For example, if only one home in an area with very low density is connected to a DSLAM, the entire cost of that DSLAM should be allocated to the home rather than the fraction based on DSLAM capacity. Furthermore, to the extent that a home is served by a long section of feeder or distribution cabling that serves only that home, the entire cost of such cabling should be allocated to the home as well.³⁰⁸

189. *Wireline Network Architecture.* We conclude that the CAF Phase II model should estimate the cost of a wireline network. For a number of reasons, we reject some commenters' suggestion that we should attempt to model the costs of both wireline and wireless technologies and base support on whichever technology is lower cost in each area of the country.³⁰⁹

190. For one, we have concerns about the feasibility of developing a wireless cost model with sufficient accuracy for use in the CAF Phase II framework. We recognize that all cost models involve a certain degree of imprecision. As we noted in the *USF Reform NOI/NPRM*, however, accurately modeling wireless deployment may raise challenges beyond those that exist for wireline models, particularly where highly localized cost estimates are required.³¹⁰ For example, the availability of desirable cell sites can significantly affect the cost of covering any given small geographic area and is challenging to model without detailed local siting information. Propagation characteristics may vary based on local and difficult to model features like foliage. Access to spectrum, which substantially affects overall network costs, varies dramatically among potential funding recipients and differs across geographies. Because the cost model for CAF Phase II will need to calculate costs for small areas (census-block or smaller), high local variability in the accuracy of outputs will create challenges, even if a cost model provides high quality results when averaged over a larger area. In light of the issues with modeling wireless costs, we remain concerned that a lowest-cost technology model including both wireless and wireline components could introduce greater error than a wireline-only model in identifying eligible areas.³¹¹ We do not believe that delaying implementation of CAF Phase II to resolve these issues serves the public interest.

191. Finally, the record fails to persuade us that, in general, the costs of cellular wireless networks are likely to be significantly lower than wireline networks for providing broadband service that meets the CAF Phase II speed, latency, and capacity requirements. In particular, we emphasize that, as described above, carriers receiving CAF Phase II support should expect to offer service with increasing download and upload speeds over time, and that allows monthly usage reasonably comparable to

³⁰⁷ See Omnibus Broadband Initiative, *The Broadband Availability Gap: OBI Technical Paper No. 1*, at 35-37 (April 2010) (OBI, *Broadband Availability Gap*), available at <http://www.broadband.gov/plan/broadband-working-reports-technical-papers.html>.

³⁰⁸ *Id.*

³⁰⁹ See NASUCA *August 3 PN Comments* at 83.

³¹⁰ See *USF Reform NOI/NPRM*, 25 FC Rcd at 6669, paras. 28-29.

³¹¹ See *infra* Section XVII.I.6.

terrestrial fixed residential broadband offerings in urban areas.³¹² The National Broadband Plan modeled the nationwide costs of a wireless broadband network dimensioned to support typical usage patterns for fixed services to homes, and found that the cost was similar to that of wireline networks.³¹³ None of the parties advocating for the use of a wireless model has submitted into the record a wireless model for fixed service and, therefore, we have no evidence that such service would be less costly.

192. *Process for Adopting the Model.* We anticipate that the Wireline Competition Bureau will adopt the specific model to be used for purposes of estimating support amounts in price cap areas by the end of 2012 for purposes of providing support beginning January 1, 2013. Before the model is adopted, we will ensure that interested parties have access to the underlying data, assumptions, and logic of all models under consideration, as well as the opportunity for further comment. When the Commission adopted its existing cost model, it did so in an open, deliberative process with ample opportunity for interested parties to participate and provide valuable assistance. We have had three rounds of comment on the use of a model for purposes of determining Connect America Fund support and remain committed to a robust public comment process. To expedite this process, we delegate to the Wireline Competition Bureau the authority to select the specific engineering cost model and associated inputs, consistent with this Order. We direct the Wireline Competition Bureau to issue a public notice within 30 days of release of this Order requesting parties to file models for consideration in this proceeding consistent with this Order, and to report to the Commission on the status of the model development process no later than June 1, 2012.

193. We note that price cap carriers serving Alaska, Hawaii, Puerto Rico, the U.S. Virgin Islands and Northern Marianas Islands argue they face operating conditions and challenges that differ from those faced by carriers in the contiguous 48 states.³¹⁴ We direct the Wireline Competition Bureau to consider the unique circumstances of these areas when adopting a cost model, and we further direct the Wireline Competition Bureau to consider whether the model ultimately adopted adequately accounts for the costs faced by carriers serving these areas. If, after reviewing the evidence, the Wireline Competition Bureau determines that the model ultimately adopted does not provide sufficient support to any of these

³¹² Today, mobile broadband providers that limit data usage often impose monthly usage limits that are an order of magnitude or more lower than limits for residential and business services in urban areas. *See supra* note 147.

³¹³ OBI, Broadband Availability Gap, at 62, Ex. 4-C (comparing costs of fixed wireless and 12,000 foot DSL networks). Modeling done for the National Broadband Plan shows that the total cost of building out a wireless network to all unserved homes in the country is approximately 1.3 times more expensive than the cost of upgrading existing facilities to offer broadband over 12,000-foot-loop DSL. *See id.* at 62-83 (describing methodology for modeling fixed wireless costs). Although the National Broadband Plan modeling focused on the difference between cost and expected revenue, the data sets published in conjunction with the Broadband Availability Gap technical paper include data showing that the total cost for wireless is significantly higher than the total cost for DSL. *See* “All Cost/All Revenue” data sets published at <http://www.broadband.gov/plan/deployment-cost-model.html>. Furthermore, the cost calculations described in the Broadband Availability Gap technical paper assumed an average bandwidth per user of 160 kbps through 2015. As demand for capacity increases, wireless providers will face much larger cost increases as they undertake costly cell splitting to accommodate increased usage. So while a wireless deployment may be lower cost for a significant fraction of locations, assuming a 160 kbps average bandwidth per user, increase in demand drives more cost in wireless and leads to wireless being more expensive in a growing majority of areas. In addition, to the extent that locations that already have access to broadband choose to subscribe to the wireless offering, providers would have to add still more capacity, driving costs even higher.

³¹⁴ *See, e.g.,* Regulatory Commission of Alaska *USF/ICC Transformation NPRM* Comments at 3-7; Alaska Communications Systems *USF/ICC Transformation NPRM* Comments at 3-5; GCI *USF/ICC Transformation NPRM* Comments at 2; Hawaiian Telcom *USF/ICC Transformation NPRM* Comments, appendix; Puerto Rico Telephone Company *USF/ICC Transformation NPRM* Comments at 7-8; Vitelco *USF/ICC Transformation NPRM* Comments at 4-5; Docomo Pacific, Inc., et al *USF/ICC Transformation NPRM* Comments of, at 4-10.

areas, the Bureau may maintain existing support levels, as modified in this Order, to any affected price cap carrier, without exceeding the overall budget of \$1.8 billion per year for price cap areas.

D. Universal Service Support for Rate-of-Return Carriers

1. Overview

194. As we transition to the CAF, many carriers will still, for some time period, receive support under our existing support mechanisms, subject to specific modifications to improve the efficiency and effectiveness of such universal service support pending full transition to the CAF. Here, we discuss the immediate steps we are taking that affect rate-of-return carriers. Some of our current rules are not meeting their intended purposes, while others simply no longer make sense in a broadband world. Reforming these rules will help further the statutory goals of ensuring (1) quality services at “just, reasonable, and affordable rates,” and (2) “equitable and non-discriminatory” contributions such that support is “sufficient” to meet the purposes of section 254 of the Act,³¹⁵ and will advance the Commission’s goals of ensuring fiscal responsibility in all USF expenditures, increasing the accountability for Fund recipients, and extending modern broadband-capable networks

195. In particular, we implement a number of reforms to eliminate waste and inefficiency and improve incentives for rational investment and operation by rate-of-return LECs. Consistent with the competitive bidding approach we adopt for the Mobility Fund Phase I and the framework we establish for support in price cap territories that combines a new forward-looking cost model and competitive bidding, we also lay the foundation for subsequent Commission action that will set rate-of-return companies on a path toward a more incentive-based form of regulation. These reforms, summarized below, will ensure that the overall size of the Fund is kept within budget by maintaining total funding for rate-of-return companies at approximately \$2 billion per year—approximately equal to current levels—while transitioning from a system that supports only telephone service to a system that will enable the deployment of modern high-speed networks capable of delivering 21st century broadband services and applications, including voice. We believe that keeping rate-of-return carriers at approximately current support levels in the aggregate during this transition appropriately balances the competing demands on universal service funding and the desire to sustain service to consumers and provide continued incentives for broadband expansion as we improve the efficiency of rate-of-return mechanisms.

196. First, we establish benchmarks that, for the first time, will establish parameters for what actual unseparated loop and common line costs carriers may seek recovery for under the federal universal service program. Specifically, we adopt a rule to limit reimbursable capital and operations expenses for purposes of determining HCLS support, which we expect will be implemented no later than July 1, 2012 after further public comment on a proposed methodology.³¹⁶ As suggested by the Rural Associations,³¹⁷

³¹⁵ 47 USC §§ 254(b)(1), (b)(4)–(5), (d), (e). The Commission’s interpretation of the term “sufficient” to mean that support should not be excessive has been upheld by the Fifth, Tenth, and District of Columbia Circuit Courts of Appeal. See *Alenco Communications, Inc. v. FCC*, 201 F.3d 608, 620–21 (5th Cir. 2000) (“The agency’s broad discretion to provide sufficient universal service funding includes the decision to impose cost controls to avoid excessive expenditures that will detract from universal service.”); *Qwest Communications Int’l, Inc. v. FCC*, 398 F.3d 1222, 1234 (10th Cir. 2005) (“excessive subsidization arguably may affect the affordability of telecommunications services, thus violating the principle in § 254(b)(1)”) (citing *Qwest Corp. v. FCC*, 258 F.3d 1191, 1200 (10th Cir. 2001)); *Rural Cellular Assn. v. FCC*, 588 F.3d 1095, 1102 (D.C. Cir. 2009) (explaining that, in assessing whether universal service subsidies are excessive, the Commission “must consider not only the possibility of pricing some customers out of the market altogether, but the need to limit the burden on customers who continue to maintain telephone service”).

³¹⁶ See *infra* Section VII.D.3.

³¹⁷ See Rural Associations *USF/ICC Transformation NPRM* Comments at 11.

we also extend the limit on recovery of corporate operations expenses, currently only applicable to HCLS, to ICLS effective January 1, 2012. In so doing, we update the formula formerly applicable only to HCLS, which has not been modified since 2001, and apply the updated formula to the two programs.³¹⁸

197. Second, we take immediate steps to ensure that carriers in rural areas are not unfairly burdening consumers across the nation by using excess universal service support to subsidize artificially low end-user rates. Specifically, effective July 1, 2012, we will reduce, on a dollar-for-dollar basis, high-cost loop support to the extent that a carrier's local rates are below a specified urban local rate floor. This rule will be phased in gradually before full implementation in 2014.

198. Third, we eliminate a program that is no longer meeting its intended purpose. Safety net additive support was put in place more than a decade ago to encourage new investment, but is not effectively performing that function. Two-thirds of such support today rewards companies because they are losing access lines, rather than because they are investing. In addition, the program fails to target new investment to areas of need and, in particular, may be rewarding investment in areas where there are unsubsidized competitors, contrary to our principle of fiscal responsibility. Accordingly, safety net additive support received as a result of line loss will be phased out during 2012. The remaining current recipients of safety net additive support will continue to receive such support pursuant to the existing rules; however, no new carriers will receive safety net additive support.

199. Fourth, we eliminate local switching support effective July 1, 2012; thereafter, any allowable recovery for switching investment will occur through the recovery mechanism adopted as part of ICC reform.³¹⁹

200. Fifth, we adopt a rule to eliminate support for rate-of-return companies in any study area that is completely overlapped by an unsubsidized competitor, as defined above,³²⁰ as there is no need for universal service subsidies to flow to such areas to ensure that consumers are served.

201. Sixth, we adopt a rule that support in excess of \$250 per line per month will no longer be provided to any carrier. Support reductions will be phased in over three years for carriers currently above the cap, beginning July 1, 2012.

202. We recognize that the aggregate impact of the foregoing rule changes will affect different individual companies to a greater or lesser degree. To the extent that any individual company can demonstrate that it needs temporary and/or partial relief from one or more of these reforms in order for its customers to continue receiving voice service in areas where there is no terrestrial alternative, the Commission is prepared to review a waiver request for additional support.³²¹ However, we do not expect to routinely grant requests for additional support, and any company that seeks additional funding will be subject to a thorough total company earnings review.

203. We also make certain technical corrections and improvements to our rules in light of other rule changes adopted today. We rebase the 2012 annual high cost loop cap to reflect the fact that support for price cap companies, including their rate-of-return study areas, will be distributed through a transitional method in the first phase of the CAF. Because price cap companies and their rate-of-return

³¹⁸ These two steps are consistent with the recommendations of the Rural Associations who proposed taking the immediate steps of (1) capping the recovery of corporate operations expenses by applying the current HCLS corporate operations expense cap formula to ICLS and LSS, and (2) imposing a limitation on federal USF recovery of certain RLEC capital expenditures. *See id.* at 8-11.

³¹⁹ *See infra* para. 872.

³²⁰ *See supra* para. 103.

³²¹ *See infra* Section VII.G.

affiliates will no longer receive HCLS as of January 1, 2012, we reduce downward the HCLS cap by the amount of HCLS received by those companies in 2011. We also articulate a new standard for study area waivers and streamline the process for review of such waiver requests.

204. Finally, we seek comment in the FNRPM on the specific proposal offered by the rural associations for new CAF support.³²² The reforms we adopt today are interim steps that are necessary to allow rate-of-return carriers to continue receiving support based on existing mechanisms for the time being, but also begin the equally necessary process of transitioning to a more incentive-based form of regulation.³²³

2. Public Interest Obligations of Rate-of-Return Carriers

205. We recognize that, in the absence of any federal mandate to provide broadband, rate-of-return carriers have been deploying broadband to millions of rural Americans, often with support from a combination of loans from lenders such as RUS and ongoing universal service support.³²⁴ We now require that recipients use their support in a manner consistent with achieving universal availability of voice and broadband.

206. To implement this policy, rather than establishing a mandatory requirement to deploy broadband-capable facilities to all locations within their service territory, we continue to offer a more flexible approach for these smaller carriers. Specifically, beginning July 1, 2012, we require the following of rate-of-return carriers that continue to receive HCLS or ICLS or begin receiving new CAF funding in conjunction with the implementation of intercarrier compensation reform, as a condition of receiving that support: Such carriers must provide broadband service at speeds of at least 4 Mbps downstream and 1 Mbps upstream with latency suitable for real-time applications, such as VoIP, and with usage capacity reasonably comparable to that available in residential terrestrial fixed broadband offerings in urban areas, upon reasonable request.³²⁵ We thus require rate-of-return carriers to provide their customers with at least the same initial minimum level of broadband service as those carriers who receive model-based support, but given their generally small size, we determine that rate-of-return carriers should be provided greater flexibility in edging out their broadband-capable networks in response to consumer demand. At this time we do not adopt intermediate build-out milestones or increased speed requirements

³²² See *infra* Section XVII.B. Under the Rural Association Plan, loop costs would be allocated to the interstate jurisdiction based on the current 25 percent allocator or the individual carrier's broadband adoption rate, whichever is greater. The new interstate revenue requirement would also include certain key broadband-related costs (*i.e.*, middle mile facilities and Internet backbone access). CAF support would be provided under this new mechanism for any provider's broadband costs that exceeded a specified benchmark representing wholesale broadband costs in urban areas. Existing HCLS and ICLS would phase out as customers adopt broadband. See Rural Associations *USF/ICC Transformation NPRM* Comments at iv-v, 27-38.

³²³ This is consistent with the approach taken in the *Universal Service First Report and Order*, 12 FCC Rcd at 8889, para. 204 ("rural carriers would gradually shift to a support system based on forward-looking economic cost at a date the Commission will set after further review"). "The Commission...will also consider whether a competitive bidding process could be used to set support levels for rural carriers." *Id.* 8918, para. 256.

³²⁴ According to NTCA's 2010 survey, 75 percent of NTCA's predominantly rural member carriers reported offering Internet access service at speeds of 1.5 to 3.0 Mbps (downstream). NTCA 2010 Broadband/Internet Availability Survey Report, National Telecommunications Cooperative Assoc. (Jan. 2011), available at http://www.ntca.org/images/stories/Documents/Advocacy/SurveyReports/2010_NTCA_Broadband_Survey_Report.pdf.

³²⁵ We intend to target support to areas where there is no unsubsidized competitor. In the FNPRM, we seek comment on how to apply this policy in areas where a rate-of-return ETC is overlapped in part by an unsubsidized competitor. See *infra* Section XVII.D (Eliminating Support for Areas with an Unsubsidized Competitor).

for future years, but we expect carriers will deploy scalable broadband to their communities and will monitor their progress in doing so, including through the annual reports they will be required to submit.³²⁶ The broadband deployment obligation we adopt is similar to the voice deployment obligations many of these carriers are subject to today.

207. We believe these public interest obligations are reasonable.³²⁷ Although many carriers may experience some reduction in support as a result of the reforms adopted herein, those reforms are necessary to eliminate waste and inefficiency and improve incentives for rational investment and operation by rate-of-return LECs. We note that these carriers benefit by receiving certain and predictable funding through the CAF created to address access charge reform.³²⁸ In addition, rate-of-return carriers will not necessarily be required to build out to and serve the most expensive locations within their service area.

208. Upon receipt of a reasonable request for service, carriers must deploy broadband to the requesting customer within a reasonable amount of time.³²⁹ We agree with the State Members of the Federal-State Joint Board on Universal Service that construction charges may be assessed, subject to limits.³³⁰ In the Accountability and Oversight section of this Order, we require ETCs to include in their annual reports to USAC and to the relevant state commission and Tribal government, if applicable, the number of unfulfilled requests for service from potential customers and the number of customer complaints, broken out separately for voice and broadband services.³³¹ We will monitor carriers' filings to determine whether reasonable requests for broadband service are being fulfilled, and we encourage states and Tribal governments to do the same. As discussed in the legal authority section above,³³² we are funding a broadband-capable voice network, so we believe that to the extent states retain jurisdiction over voice service, states will have jurisdiction to monitor these carriers' responsiveness to customer requests for service.

209. We recognize that smaller carriers serve some of the highest cost areas of the nation. We seek comment in the FNPRM below on alternative ways to meet the needs of consumers in these highest cost areas. Pending development of the record and resolution of these issues, rate-of-return carriers are simply required to extend broadband on reasonable request. We expect that rate-of-return carriers will follow pre-existing state requirements, if any, regarding service line extensions in their highest-cost areas.

3. Limits on Reimbursable Capital and Operating Costs

210. In this section, we adopt a framework for ensuring that companies do not receive more support than necessary to serve their communities. The framework consists of benchmarks for prudent

³²⁶ See *supra* paras. 105-106 (committing to initiating a proceeding no later than the end of 2014 to review performance requirements).

³²⁷ See *supra* paras. 92-100 (adopting broadband performance metrics).

³²⁸ See *infra* Section XIII.F.3 (Monitoring Compliance with Recovery Mechanism).

³²⁹ C.f. 47 C.F.R. § 54.202 (requiring any carrier petitioning to be federally-designated ETCs to "[c]ommit to provide service throughout its proposed designated service area to all customers making a reasonable request for service" and to certify that it will provide service "on a timely basis" to customers within its existing network coverage and "within a reasonable time" to customers outside of its existing network coverage if service can be provided at reasonable cost).

³³⁰ State Members *August 3 PN Comments* at Appx. A, 159.

³³¹ See *infra* para. 580.

³³² See *supra* section V (Legal Authority).